

1. A method of coating a surface of a substrate, comprising:
 - providing and directing a chemical vapor deposition stream comprising a coating precursor and a combustible medium toward the substrate and combusting
 - 5 the stream to provide a reacted coating precursor in a gaseous plume;
 - modifying the plume by causing the plume to pass through an orifice of a shield prior to the plume contacting the surface of the substrate and by controlling the size of the orifice through which the plume passes; and
 - causing the plume to contact a portion of the surface to deposit a coating
 - 10 thereon;
 - wherein the coating thickness is at least partially controlled by the temperature of the substrate exposed to the plume and the degree of condensation occurring at the surface;
 - wherein the temperature of the substrate is at least partially controlled by the
 - 15 size of the orifice; and
 - wherein the coating thickness changes in response to substrate temperature and plume flow characteristics, thereby providing effective control over coating thickness and material characteristics.

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2. An apparatus for coating a surface of a substrate, comprising:

a source of chemical vapor deposition material, the material comprising a coating precursor and a combustible medium that is capable of combusting to provide a reacted coating precursor in a gaseous plume;

5 a vapor deposition shield disposed between the source and the substrate, the shield having an adjustable orifice for passage of the plume and for controlling the thickness of the coating applied to the surface of the substrate; and

means for adjusting the orifice such that the coating thickness at the surface changes in response to a modification of the substrate temperature, plume

10 characteristics and concentrations, thereby effecting the degree of condensation of the coating at the surface.

3. An article comprising a conductive substrate having a surface with a resistive coating thereon produced by the method of Claim 1.